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Abstract
As attendees at the Association for the Study of Higher Education (ASHE) annual conference plot their schedules, they are met with an array of choices. The multitude of topical areas, methods, theories, and perspectives on display at any given ASHE conference suggests a rich and diverse vibrancy of scholarship. But such perceived diversity often conceals areas of conflict. Whose voice is being heard? What paper topic seems to fit on which panel or in which section? What is eventually published? The academic study of higher education, like any field of knowledge, has emerging structures and undergoes dynamic changes with potentially profound implications for how scholars label, define, and describe their field of inquiry.

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Far Beyond Postsecondary: Longitudinal Analyses of Topical and Citation Networks in the Field of Higher Education Studies

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Supplemental appendices containing the complete word-pair networks, co-citation networks, and a searchable list of terms are available online in the Iowa State University Digital Repository (https://lib.dr.iastate.edu/edu_pubs/174/). To access the downloadable word-pair data files, go to https://doi.org/10.25380/iastate.13118186.v1.
Abstract

As the low-consensus field of higher education grows, it negotiates constraints and possibilities in the topics engaged and the scholars included. To trace the shifting patterns of research topics in higher education studies during the past 20 years, we examined networks of the topical structures of ASHE conference papers and a subset of U.S. higher education journals. Topical and co-citation networks indicated that the field may be at a point of reconfiguration. We found shifts in terminology, frameworks, and methodologies related to increasingly disconnected topic clusters. Currently, the field seems capable of encompassing these distinctions through more independent discourse subcommunities.

*Keywords:* higher education studies, disciplinary knowledge, network analysis, scientometrics
As attendees at the Association for the Study of Higher Education (ASHE) annual conference plot their schedules, they are met with an array of choices. The multitude of topical areas, methods, theories, and perspectives on display at any given ASHE conference suggests a rich and diverse vibrancy of scholarship. But such perceived diversity often conceals areas of conflict. Whose voice is being heard? What paper topic seems to fit on which panel or in which section? What is eventually published? The academic study of higher education, like any field of knowledge, has emerging structures and undergoes dynamic changes with potentially profound implications for how scholars label, define, and describe their field of inquiry.

“Higher education studies” (Renn, 2019) is an evolving and expanding discursive community (Kimball & Friedensen, 2019). As a “low-consensus field” (Renn, 2019), scholars negotiate the topics, questions, epistemologies, and methods that constitute the shifting boundaries of knowledge. Although the contours of this discursive community are broad, a central locus for defining the community’s shared identity takes place at ASHE’s annual conference. Notably, the 2018 and 2019 ASHE presidential keynote addresses examined this identity and addressed ideological and methodological debates in the field (Patton, 2018; Renn, 2019). These debates play out through the presentation and publication of new work, the bodies of scholarly literature drawn on in that work, and the gatekeeping mechanisms that determine what work will be shared in print with a scholarly audience.

During the past 20 years, the scholarly apparatus around the field has expanded rapidly (Altbach, 2014), including additional journals yielding more published articles, more higher education graduate programs (ASHE, 2020), and expanding membership within ASHE, which now has more than 2,200 members and increasing conference attendance (Renn, 2019). These patterns dovetail with the neoliberalization of the academy, in which there is greater competition
for faculty positions and pressure to present and publish earlier and more frequently (Slaughter & Leslie, 1997). Within these contexts, we investigate the specific patterns of “low consensus” in the field of higher education studies by tracing the structural relationships of the topics and bodies of work engaged at ASHE conferences and within selected higher education journals during the past two decades.

Current knowledge about the field’s structure is based on publication analyses of journal subsets that quantify citations and code topics and authors (e.g., Budd & Magnuson, 2010; Williams et al., 2018). Relational questions arise about whether and how the topics and discourse communities within the field persist, reconfigure, expand, divide, or fade away. The acceptance or dismissal of new ideas as legitimate areas of research depends on scholars within the field being able to imagine new research as relating to an existing structural framework of topics, frameworks, and methodologies. Naming and examining patterns of topics in various venues within the field of higher education provide insight into processes that reinforce or alter current research structures and, by extension, their mutual relationships to policy and practice.

To better understand the way the field negotiates consensus in terms of longitudinal patterns of research topics and discourse communities within the field, we draw on a different kind of analysis that centers relationships between words and between cited texts to create network structures. Because we focus on interrelationships and changes among the structures over time, we are able to identify strands of conversation included in higher education discourse at ASHE and in five higher education journals published in the United States during the past 20 years as the field has rapidly expanded. Four of these journals are sponsored by major U.S.-headquartered higher education groups and one is housed at a U.S. university with a large higher education doctoral program. These journals, which we believe highlight trends in the discursive
community of higher education studies, include *The Review of Higher Education (RevHE)*, *Research in Higher Education (ResHE)*, *The Journal of Higher Education (JHE)*, *Journal of Diversity in Higher Education (JDHE)*, and the *Journal of College Student Development (JCSD)*. We examined within-venue and cross-venue shifts in discourse. Word-pair and co-citation networks indicated that research related to college students remained an enduring topic, but venue-specific concerns, methodological applications, and cited frameworks pointed toward ongoing structural divides within the field as it negotiates its low-consensus status. Our findings suggest the field of higher education studies may be at a point of lower topical consensus, which potentially portends reconfiguration in the field and the emergence of new discursive sub-communities.

**Scholarly Knowledge Construction in Higher Education Studies**

We frame our study of higher education’s topical structures using the concept of higher education as a low-consensus field. We outline the roles of professional organizations, conferences, and publications, as well as previous analyses of a subset of higher education journals, to examine the ways in which our knowledge of the field has been constructed to date. We then offer the network analytic paradigm as a way to conceptualize the interrelationships of these topics and the mechanisms through which they may be produced.

**The Context of Higher Education Knowledge Construction**

In academia, disciplines and fields of study provide organizational boundaries for knowledge production. Kuhn (1962) argued that a discipline reached paradigmatic status when there was consensus about the types of methods that should be used and the kinds of questions that were appropriate to ask. In contrast, those without such clearly defined paradigms were labeled low consensus (Biglan, 1973). As a low-consensus field, “higher education studies”
make space for critical theories, discipline-based research, and transdisciplinary and interdisciplinary inquiry (Renn, 2019). Renn described how such a lack of consensus can be generative in terms of embracing creativity, including indigenous worldviews, and holding space for scholars with minoritized identities, while simultaneously fostering potential for the dismissal of “outsiders” in terms of both people and ideas. Low-consensus fields can also nurture disconnects between scholarly theoretical work and practice translations (Torres et al., 2019).

Knowledge construction in higher education is carried out in an environment of political contestation. Some of these power-based struggles include the development of curriculum policy (Slaughter, 1997), the movement toward neoliberal pursuits of status and prestige among research universities (Slaughter & Leslie, 1997), and the changes within the organization of postsecondary institutions in response to market pressures (Rosinger et al., 2016; Kauppinen et al., 2017). These contests may also be reflected in the programs of research that scholars of postsecondary education engage in, such that the distribution of power through political contest and the mobilization of bias is reified in changing research programs and dominant epistemologies, topics, and ideologies. In addition to tracing the structure of topics within the field, research is needed that explores the potential emergence or decline of prevalent topics in the field. Echoing Zuboff’s (2015) assertion that new knowledge economies require an understanding of the division of labor as the division of learning, examining how topics emerge in a field of study could point to the role of gatekeeper organizations in knowledge production and the central role different ideologies play in shaping discourse communities.

**The Role of Professional Organizations and Conferences**

Professional associations are formally organized groups in which (most) members participate without financial compensation (Knoke, 1986). They provide spaces within a field
where members construct the meaning of the field (Greenwood et al., 2002) and monitor the
logics of the profession (Thornton et al., 2012). Professional organizations and their sponsored
conferences and scholarly journals are part of the evolution of scientific literature, which is
generally assumed to follow a relatively fixed model that includes conference presentations,
journal publications, and the packaging of journal articles (Drott, 1995), although some have
argued for a more dialogic conception of knowledge production (Silverman, 1988).

By virtue of serving these varying roles, professional organizations become mechanisms
for conformity and reproduction or legitimating change (Greenwood et al., 2002). Although
multiple organizations foster research in higher education, for this study we focus on ASHE as a
key professional association within the broader field of higher education, as have others
(Kortegast et al., 2020). ASHE serves as one site for institutionally legitimating the field’s core
issues and approaches. By identifying what is discussed and on what topics the field remains
silent, and in which conference or sponsored publication venues these conversations occur, we
can add to the ongoing discussions of the field’s knowledge structures.

Publication and Citation Analyses

One way that scholars analyze part of a field’s knowledge production is through tracing
publication and citation trends, in both organizationally sponsored and independent journals.
Publication and citation practices are far from neutral. For example, recent work in political
science has underscored gendered disparities in publication patterns (Teele & Thelen, 2017).
Women authors have also been in the minority in JHE, ResHE, and RevHE (Creamer, 1994;
Hart, 2006), in contrast to JCSD (Davis & Liddell, 1997). Research publication has been
institutionally concentrated, with half of the authors published from 2006 to 2010 in JHE,
ResHE, and RevHE receiving doctoral training at 13 institutions (Saunders et al., 2016).
Ahmed (2013) referred to citation as “a rather successful reproductive technology, a way of reproducing the world around certain bodies.” Citation can be used as reification or resistance (Mott & Cockayne, 2017). Examples of resistance include Squire and McCann’s (2018) citation of only women of color and “Cite Black Women,” a campaign created by Christen A. Smith and run by a collective to draw attention to citational politics and to center Black women’s knowledge contributions (Cite Black Women, n.d.) in order to counter unethical citation practices in which Black women’s labor and knowledge are plundered and erased (Edmonds, 2019). Several fields have attempted analyses of gender or racial disparities in citation practices, though gender analyses were binarized and author racial categorization can be problematic. In three social science fields (Dion et al., 2018) and international relations (Mitchell et al., 2013), men were less likely to cite women. Scholars of color were underrepresented in journal citations in the field of communications (Chakravartty et al., 2018). Another aspect of citation analyses in general is that they do not necessarily provide clarity about the meaning of citations as works can be cited for many reasons, including agreement, disagreement, development, or coercion (Baumgartner & Pieters, 2003).

Much of the discussion of knowledge production in higher education has centered on describing most-cited articles and authors, examining what is cited within journals, and analyzing topical and methodological prevalence. General citation and publication analyses of JHE, ResHE, and RevHE have been conducted regularly (Budd, 1990; Budd & Magnuson, 2010) and some include additional journals (Silverman, 1987; Tight, 2007). Others have focused on single journals during distinct time periods or throughout their publications (Calma & Davies, 2015; Calma & Davies, 2017; Earp, 2010; Floyd et al., 2016). Smith (2019) used co-citation networks to trace topics and literatures cited in JCSD during its 60-year history. Citation
analyses can be more specific, such as Hart and Metcalfe’s (2010) work on the citation histories of published feminist articles in three higher education journals.

Beyond citation, higher education researchers have conducted analyses to explore the field’s publications in terms of national origin, methods and paradigms, and topics engaged. Globally, higher education research is concentrated geographically (Fitzgerald & Jiang, 2019; Jung & Horta, 2013) and largely within national borders (Kuzhabekova et al., 2015).

Historically, most U.S. higher education research in leading journals has been consistent with the functionalist paradigm (Milam, 1991). Methodological analyses of JHE, ResHE, and RevHE, sometimes among others, showed increasing intermediate and advanced statistical use and the pervasiveness of quantitative methods (Hutchinson & Lovell, 2004; Johnson et al., 2016; Tight, 2007; Wells et al., 2015). Relatively more qualitative analyses were found in JHE relative to the other two journals (Williams et al., 2018) and in JCSD (Davis & Liddell, 1997).

Topical analyses, typically conducted through word counts (Huisman, 2013), keyword networks (Calma & Davies, 2017), or researcher coding and content analysis, usually focused on the topical coverage related to particular foci of interest. Community college research tends to have its own language for researchers (Floyd et al., 2016), and there has been limited visibility of community colleges in top journals (Townsend et al., 2005). Davis and Liddell (1997) found developmental issues to be most common in JCSD. Others have examined coverage of adult undergraduate students (Donaldson & Townsend, 2007), feminist topics and frameworks (Hart, 2006; Townsend, 1993), gender and leadership (Hyle et al., 2016), and race (Mitchell et al., 2014). Our analysis widens the lens to include the dynamic relationships of topics included in a subset of the field’s scholarly venues.

Knowledge as Networks
As part of our larger interests in the intersections of structure and power in knowledge production, we use relational analyses to understand more about the topics that currently exist in the field of higher education. Our analysis rests on a network analytic paradigm (Wellman, 1983), where the unit of analysis is the relationship between entities and yields larger structures containing specific content. Network analysts are also interested in the forces that drive network patterns and the results of network positionality. One such force is differentiation, or disagreement (Abbott, 2001). For Abbott, this branching process continues until there is a disciplinary “reset.” Identifying moments of reset could help scholars understand the outcomes of political contests over the division of learning—who gets studied, how, and to what ends.

Instead of relying on differentiation mechanisms alone, it is possible that similarities drive connection in a different way. Network perspectives offer expanded opportunities for thinking about the nature of knowledge relationships and formation processes in generative or connective ways. The tensions of community, in their similarity and difference, can be examined through a variety of network processes beyond differentiation and open possibilities for new structures of knowledge relationships. And, although network processes are beyond the analysis presented in the current article, they can join analyses of power and structure.

For network analysts, knowledge construction is both a social and a cognitive process. Leydesdorff (1998) theorized it as the interrelationships between authors, groups of authors, texts, and groups of texts. These relationships can have varying effects, including building knowledges, generating codification, or creating epistemic closure. The relationships between texts and between groups of texts is particularly salient in our analysis, as it provides avenues for thinking about the construction and development of research topics over time, the texts that are
cited in the development of those topics, and the venues (e.g., academic conferences or journals) in which those groups of texts are discussed or published.

**Methods**

Social network perspectives take relationships as the unit of analysis, aggregating them to form patterns of connections within which any one entity is embedded. The networks (patterns of relationships) are made up of nodes (individual entities) and edges (connections between entities). In the word co-occurrence networks, the nodes are words and the edges connecting them mean they appear in the same article title and abstract. These word-pairs are useful for identifying terms and concepts that appear together frequently (i.e., performance based, performance funding, funding based). In the co-citation networks, the nodes are works that appear in published articles’ reference lists, and the edges connecting them mean they appear together in a reference list. Co-citation networks are useful for tracing major strands of topical conversation in journals by examining the works mostly commonly cited together in articles (Marshakova-Shaikevich, 2005). The assumption is that when groups of texts are often cited together, they represent part of an ongoing dialogue in the field. We chose to include both word-pairs and co-citation because coupling content analysis with citation analysis provides a mechanism to allow added information about the use of the topics (Budd & Magnuson, 2010).

The data spanned 1998 to 2017 and consisted of the titles of papers presented at ASHE research paper sessions along with the corpus of research articles published in the five focal journals during this period. The conference data were provided by the ASHE office. The journal data came from Web of Science, a subscription-based indexing service. We chose five focal journals to include in the analysis: RevHE, ResHE, JHE, the *Journal of Diversity in Higher Education* (JDHE), and JCSD. This subset of journals was appropriate because four of the five
are among the “tier one” (Bray & Major, 2011) in the field and cover an array of topics of interest to higher education scholars (Budd & Magnuson, 2010). Four journals are affiliated with major membership organizations for higher education study and practice, whereas the fifth and oldest, *JHE*, is independent. They provided the opportunity to observe how approaches to core topics of interest (e.g., policy, teaching and learning, student development and success, diversity and equity) may have changed over time. Given the increased focus on topics related to equity, diversity, and social justice in higher education, we included *JDHE* in our corpus. The emergence, in 2008, of a dedicated venue supported by a national organization (the National Association of Diversity Officers in Higher Education) may have shaped topic dispersal.

We chose 1998 as the starting point because ASHE experienced an exponential increase in the number of conference papers around that time. We divided our 20-year period into 5-year increments to examine change, resulting in four waves of data. Our data contained a total of 4,040 ASHE conference papers. Disaggregating the total by wave yields 574, 992, 1,482, and 1,657 respectively. We analyzed a total of 2,913 research articles published in the five journals. The number of research articles per journal per period is listed in Table 1, which tends to vary by journal. The least number of articles per period was 91, and the most was 343. To examine topical change over time, we analyzed both within and across venues.

**Topic Analysis: Word Co-occurrence Networks**

We conducted the topic analysis by identifying word-pairs from abstracts (in the case of journals) and titles (in the case of ASHE presentations). The corpus of documents was converted into a term-document-matrix where each word-pair was an observation within each volume and journal (or conference year). We created two different types of matrices: one for all publications and terms and one specific to an individual venue. This allowed us to compare within-venue
trends with field-level trends. Per the norms of topic analysis (Silge & Robinson, 2016), we removed stopwords (e.g., a, the, with), and we included the plural of some word pairs with their singular form (e.g., college-students is equivalent to college-student). We alphabetized all word-pairs such that students-college became college-students in our matrices.

**Topic Analysis: Co-citation Networks**

To add additional dimension to the meanings of the co-occurrence patterns, we created and analyzed co-citation networks for research articles published in the five journals. (These networks could not be created for ASHE because we did not have full papers with reference lists.) We imported the journal article data, which contained the lists of cited references, into the Science of Science (Sci2) Tool (https://sci2.cns.iu.edu/). The Sci2 Tool is a program that facilitates the analysis of scientific publications in temporal, geospatial, topical, and network terms. We used Sci2 to construct direct citation networks from the journal article data. Because of occasional small irregularities in the ways cited materials are recorded in Web of Science that causes a single item to be recorded in multiple ways (such as differing capitalization), we used the automerge feature to combine entries if they had 98% identical content, after testing a variety of thresholds. We then manually checked the top set of edges for errors. We used the direct citation networks to construct the co-citation networks and extracted the top 100 edges to visualize the patterns of ties among the most co-cited works within each journal and time period.

We visualized the networks using the network analysis and visualization program Gephi, version 0.9.2 (Bastian et al., 2009). To detect distinctive strands of conversations within the networks, we ran the modularity algorithm (Blondel et al., 2008). This algorithm identified the groups of co-citations that were mathematically most closely connected to one another and most distant from others and then partitioned the graphs into those communities. Each community in
the network was identified by color. We chose the Yifan Hu layout algorithm for network display to emphasize complementarities (Hu, 2006). We examined the citations in each of the communities to identify the common topic, and then we analyzed the distribution of topics across the journals and time periods and compared these results to our word co-occurrence networks.

Limitations

Our study has several main conceptual and analytical limitations. While we can identify topics and, for the journals, scholarly works that higher education scholars are engaging, our analysis does not deal with what the authors are arguing about these topics or the ways the topics are defined. Word-topic networks are limited in that they do not account for sentiment or contextual use of a term (e.g., college and student may be separated by 150 words or they may be adjacent). Co-citation networks, in highlighting clusters of related works, do not represent highly cited work that is not often consistently cited alongside other specific works. Therefore, the interpretation of co-citation networks is that they highlight works that are most often put in conversation with one another, for any number of purposes. Higher education as a field also has many more sites for scholarly and professional knowledge construction than those we could include, such as other conferences and peer-reviewed, policy, organizational, and trade publications. Additionally, presentation and publication do not necessarily imply that administrators, policy makers, and educators are engaging with and using what is produced.

Results

Complete results of the word-pair networks, which include a searchable term interface, the co-citation networks, and the word-pair data files are available online [https://lib.dr.iastate.edu/edu_pubs/174/]. Here we include salient examples to illustrate main findings. The word-pair networks show the connections between the top 5% of word-pairs by
journal and time period. The thicker the line connecting the words, the more frequently the pair appears. The visualization fills empty space, so the size of the word is a reflection of its length, not an indication of prevalence. The co-citation networks depict the sources that are among the top 100 pairs. Each source is a circle, or node, with a label produced by Web of Science that is a shorter version of the citation (as a result, some co-authors are omitted). The thicker the line connecting the sources, the more often they are cited together. The colors depict the communities as detected by the modularity algorithm. The co-citation descriptive statistics are included in Table 1. Nodes are the number of sources included in the top 100 pairs, which vary from 42 to 80. The average degree is the average number of other included sources to which each individual source is connected. Components are groups of co-cited works that are not connected to any other co-cited works; as a result, they are a measure of overall connectedness within the top 100 pairs. Finally, we manually circled and labeled the communities (and online, identified by color) to indicate works that are generally part of a topic or discourse. In some instances, a circled topic includes connected communities of different colors. For parsimony we have given them the same topic label, but the community differentiation indicates a difference in citation patterns that could be due to different lines of research, conceptualizations, or methods.

[TABLE 1 ABOUT HERE]

**Topic Comparisons by Venue**

The first part of our analysis dealt with how topics emerged and related to one another within the context of ASHE or the individual journal over the period of 1998–2017, in 5-year increments. Next, we discuss the trends within each journal and ASHE separately, based on the results of the word co-occurrence and co-citation matrices.

*Review of Higher Education*
*RevHE* was the most atypical venue in terms of the structure and content of word-pairs across waves. Although other journals’ top word-pair networks expanded in a relatively linear pattern, with more words and more frequent connections among words in each wave, *RevHE* expanded throughout the third wave with a substantial uptick in both the number of word-pairs and the number of connections among different word-pairs in the third wave, before substantially contracting in the fourth wave (see Figures 1 through 4).

*RevHE* arguably experienced the most significant shifts in prevalent word-pair topics from wave to wave during this period. In the first wave of literature, the journal covered a broad spectrum of topics including terminology on faculty, public policy, and college students. The topics included narrowed to college student experiences and outcomes in the second wave, before expanding and contracting again in a similar fashion. This pattern of movement between a wide variety of topics and a narrower set of topics describing student experiences and outcomes diverged from the other journals and the ASHE conference, which expanded.

The co-citation networks also demonstrated this variation in topics over time, with large central components featuring communities related to undergraduate student experiences and success and diversity-related experiences and outcomes. The most striking aspect of *RevHE* was that the central component broke up into many smaller topical components during the most recent period (see Figures 5 and 6). These now-disconnected communities dealt with academic capitalism, faculty, undocumented students, college choice, diversity experiences and outcomes, qualitative methodologies, and quantitative methodologies. The qualitative community was particularly large by the most recent period and included critical race theory.

[FIGURES 5-6 ABOUT HERE]
Research in Higher Education

ResHE had the most consistent corpus of the journals we reviewed during the period. Although new and narrower topics emerge, especially in relation to methodological approaches, the general word-pair prevalence of ResHE remained remarkably stable. ResHE had the distinction of the largest published corpus of a peer-reviewed journal during the period, yet the most popular topic pairs in each wave accounted for a more significant proportion of topics than in the other journals we reviewed. For example, the top 50 terms at ResHE accounted for, on average, nearly 20% of the corpus, whereas the next closest was JCSD, where the top 50 terms accounted for less than 10%—a percentage that declined over time.

Across the four waves, the emergent terms at ResHE focused on questions of policy, measurement, and analysis (word-pair Figures 15 through 18 online). Terminology related to quantification, the estimation of effects, and the representativeness of a sample was common. College receded in prevalence, replaced by university, institutional, and public. Outcomes-related language such as degree, graduation, and persistence increased in prevalence over time. In the second half of the corpus, language related to cost, financial aid, and budgeting (like performance based) played a significantly larger role across the abstracts than in the first two waves, where the most prevalent word-pairs dealt with student learning–related outcomes.

The co-citation analyses (co-citation Figures 11 through 14 online) also underscored the consistency of topics, especially in relationship to undergraduate student experiences and success. Although not always connected, communities related to college choice and specific quantitative methods were present. In particular, the most recent period showed hierarchical linear modeling serving as the bridge connecting communities dealing with diversity and student
involvement, engagement, and retention. A notable exception to the consistency of topics was the community related to major and career choice in 2008–2012 (co-citation Figure 13 online).

*Journal of Higher Education*

*JHE*, the only included publication not affiliated with a professional organization, demonstrated expansion over time in the topics covered. Although both *RevHE* and *JHE* began with central word-pairs related to student outcomes and experiences, over time *JHE* expanded the variety of word-pairs substantially. For example, in the third period, research on liberal arts contexts, program, and curriculum was present, as were encroaching forms of academic capitalism on faculty life and an increased interest in science and engineering education. At the core of each graph was a cluster of topics around students, learning, academics, and universities.

The expansive *JHE* topic pattern showed up in the co-citation visualizations as separate components and communities across all four periods. It was consistently more structurally disconnected than the other journals, with those disconnected components shifting topically across the waves. The exception to this pattern was academic capitalism, which was consistently present. The third period in particular saw an expansion in the number of communities, containing college choice, more specific quantitative methods (multilevel modeling and hierarchical linear modeling), and the effects of undergraduate student racial and ethnic diversity.

*Journal of College Student Development*

*JCSD* appeared to undergo the most considerable shift in the way that prevalent topics were identified and described. In the early period, descriptive terms for research populations (such as African American, white, and female/women) were more common, as were areas such as academic and student affairs. Methodological terminology—specifically surveys and scale usage—was also more common in the first two waves than in the latter periods. In general, we
observed a shift toward broader language use (gender as opposed to women, race and ethnicity as opposed to naming specific populations) and an increased inclusion of academic theories.

*JCSD*’s co-citation networks also showed community shifts over time within a fairly consistent connected main component. Qualitative methodologies were visible throughout, and as with the word-pair data, quantitative methodology co-citations appeared in the most recent period. Over time, the central group of citations relating to student success, experiences, engagement, and involvement contracted and were replaced by other concepts, such as multiple dimensions of identity and sense of belonging.

*Journal of Diversity in Higher Education*

*JDHE* was present in our dataset for the last two periods and thus contained a smaller corpus to consider. The journal’s scope was reflected in the word-pairs for both periods that included diversity-related terminology such as race, racial, color, and ethnic. Similar to other journals in the period, *JDHE* included research on faculty, campuses, and institutions, although the balance of prevalent populations shifted toward students in the latter period. In both periods, the term white (and whiteness) appeared frequently and primarily connected to college students, although predominantly white institutions were also often identified.

The co-citation visualization in the most recent period was notable for the absence of communities centered on ubiquitous student experience authors such as Kuh, Astin, and Tinto, which were present in every other journal’s sociograms in every period. The qualitative methodologies community is dominant, and the sociograms also feature key works that perform bridging functions between the components. A clear example was the path from Lincoln and Guba (naturalistic inquiry) to Solorzano, Ceja, and Yosso (CRT and microaggressions) to Rankin
and Reason (campus climate) in co-citation Figure 6 (online). These clusters demonstrate some evidence of a methodological divide in approaches to related questions.

**Association for the Study of Higher Education Annual Meeting**

From the first period we reviewed, the ASHE annual meeting covered a broader cross section of topics than journals in the same period. Before journals had turned their attention to include community colleges, liberal arts programs, or faculty development in their core topics, research on these areas was present at ASHE. Over time, the ASHE word-pair network expanded to cover more area of research including financial aid, public policy and funding, STEM students, and social class. In contrast to other journals, very few terms related to methodology appear in the ASHE corpus, although this is more likely an artifact of the focus on titles in contrast to abstracts. The most popular word-pairs used in paper titles changed substantially (see Table 2), with terminology that was popular in the first period falling out of favor by the end. Most terms ascended, peaked around wave three and then uniformly declined (albeit to varying degrees). It is worth noting that in the period between waves 3 and 4 of the ASHE corpus, significantly more papers were accepted and presented. Despite this substantial increase, the most frequent terms receded, replaced by newly ascendant terminology. Additionally, within individual years, specific topic pairs related to the annual theme emerged (e.g., “good-public” or public good in 2016), although these popular terms tended not to persist across waves. Within a single conference, the annual theme seemed influential in the title and framing process.

[Table 2 about here]

**Topic Comparisons Across Venues**

After examining change over time individually within journals and ASHE, we turn to a summary across the venues. The change in the corpus’s overall most popular terms is contained
in Table 3. Popular topics across the corpus were uniformly popular across journals. For example, university students were frequently discussed in every journal across each period, in terms of both raw numbers and proportionally. Research on campus communities, students’ experiences in classrooms, and institutional academic programs and practices accounted for the vast majority of topics covered across the journals and ASHE. These topics were, undeniably, the core areas of interest among postsecondary scholars, and they are sufficiently generic that they would fit into evolving research paradigms and changing areas of interest within higher education studies. The only real deviation in representation was within *JDHE*, where the topic-pair ethnic/racial was not used much across the corpus. Instead, racial and ethnic were more often connected to units of analyses such as students or faculty.

**[TABLE 3 ABOUT HERE]**

The journal co-citation networks echoed the prevalence of undergraduate student experiences and outcomes, showing consistent large, central components that engaged these topics around authors such as Astin, Kuh, Pascarella and Terenzini, and Tinto. Of note, though, is that these components contracted within all journals and most recently disappeared in *JDHE*.

**Discussion**

Our analyses of the past 20 years of ASHE conferences and five higher education journals provided evidence of partially decreasing consensus within an already “low consensus” (Renn, 2019) field. Although there are inevitable controversies about how higher education scholars should approach their research epistemologically and methodologically, there are consistent core questions and topics that unify the research that constitutes higher education studies. In this way, our work reinforces Renn’s hypothesis that a low consensus field (regarding methods and theory) can effectively manage controversy through the presence of multiple
smaller discourse communities. Diverse approaches are able to find common place in the larger discourse community of higher education studies, with ASHE potentially being a space where different aspects of the smaller discourse communities (e.g., critical theorists and econometricians) come into contact and potentially direct dialogue.

The word-pair and co-citation networks combined to allow the identification of prevalent, dynamic discourses and their associated communities within the field of higher education studies. ASHE conferences displayed a wider array of topics compared with journal venues, and journals sponsored by professional organizations showed somewhat more stability in topical areas than the unaffiliated *JHE*. Some topics were consistently present, but the variation contained within the research venues, the locations of methodological discussions, and patterns of cited works indicated ongoing structural divides within the field as it negotiates its low-consensus status. In our discussion, we also want to remind readers that these networks are about the structures of words and cited material appearing together most frequently, which means that individually frequent words or highly cited material may not appear, and the interpretations of those words or citations cannot be demonstrated. Finally, we encourage further work on the multiple drivers and effects of these patterns, situated as they are within the broader landscape that includes organizational and publication leadership, institutional type and prestige, public policy, and research funding sources.

As the field grew, we observed both stability and change—evidence of how organizations participated in shaping discourses, both supporting conformity and legitimating new knowledges (Greenwood et al., 2002). A core interest of higher education remained unchanged: undergraduate college students. What did shift were the ways that students were talked about, in terms of specific terminology, topical interests related to students, and the frameworks used to
conduct research about students. Among the research journals, we found consistency in *ResHE*. In contrast, the other journals featured different types of change. For *RevHE*, it was cyclical. For *JHE*, it included expansion and change in topics. For *JCSD* and *JDHE*, there were major changes in terminology and frameworks used.

Our journal-based co-citation results suggested the existence of both related and distinct discourse patterns across the growing body of higher education scholarship. These topic clusters were more or less present based on venue. College choice was a consistent presence in *JHE*, *ResHE*, and *RevHE* and was disconnected from other research about students. Undergraduate student experience and outcomes began as rather monolithic across all the venues. The main network steadily shrank, disappearing in the most recent period for *JDHE*, and it spawned work that paid closer attention to student identity and context. The co-citation network change in *JDHE* and the fact that its word-pair networks included white and whiteness may connect to broader recognition of the whiteness of some historically predominant research frameworks (Cabrera, 2018). Ignited by the Michigan affirmative action cases, the effect of undergraduate racial and ethnic diversity, as connected to authors like Gurin and Chang among others, was a clear discourse community in four of the five journals, with *JCSD* as an exception. Discourses around qualitative methods were varied, presenting consistently in *JCSD* and *JHE* and visible in all journals except *ResHE* by wave four. In contrast, *ResHE* consistently contained quantitative methods co-citations, in keeping with its currently stated interest in “advanced quantitative research methods” (Research in Higher Education, 2020). Some co-citation patterns show that methods pieces tend to appear alongside particular topic clusters. For example, qualitative methods works are often cited with identity development work, whereas multilevel modeling works are cited alongside undergraduate student experiences and success.
That these discourse communities coalesced around certain topics and changed their approach to topics over time in distinctive ways suggests that the social norms, incentives, and systems that shape scholarly production in the field of higher education are not uniform. Indeed, some communities expand their purview, others expand and contract, while others break off into more specific and nuanced topics. The interest and engagement in a discourse community with different scholarly objectives—such as generalizability, methodological innovation, or critical interrogation of systems of oppression—suggest that splits in discourse communities are not simply topical but also potentially ideological and, as a consequence, methodological. For example, research guided by critical race theory approaches the design, analysis, and interpretation using specific ideological and methodological lenses, as does quasi-experimental policy analysis research. Both approaches assert ideological beliefs about reality and social systems and methodological principles for investigation that precede from those beliefs. Some journals, like *ResHE*, signal this distinction in their scopes and aims, whereas others, like *JHE*, reflect editorial team preferences.

In considering the division of learning, some journals clearly focus on different topics given their mission and scope. *JDHE* focuses on issues of equity and diversity as part of its enumerated mission. However, the movement away from student-focused research within the journal suggests that scholars of organizations, institutions, and postsecondary work may be seeking space for their research. Similarly, *JCSD* has a focus on students in its name, although the co-citation networks that emerged there identified central work that was different from research on students appearing in other venues, reflecting its historical emphasis on developmental perspectives. These differences are not, a priori, a problem. They are most likely
an artifact of the fundamental purpose and vision of the journals and their affiliated professional organizations. They also appear to facilitate discourse subcommunities.

Still, recent controversies related to the quality of inquiry and inclusion of topics engaged at ASHE (e.g., Patton, 2018) suggest divisions among scholars of different methodological, epistemological, and ideological perspectives. Both the expansion and the diversification of ASHE would indicate that the field can effectively contain these controversies and that over time scholars may benefit from a shared space to engage across ideological and methodological differences. ASHE, because of its role as a work-in-progress venue with extensive graduate student participation and expansive scope, serves as an opportunity for interaction within and between discourse communities. Our research suggests that ASHE offers a robust potential forum for exchange. The extent to which that exchange happens is an open question, and we encourage both scholars and organizational leaders to reflect on how they capitalize on the space to take advantage of the ways in which interacting discourse communities could produce richer scholarship. One example is examining the extent to which the proposal, paper panel, and section formats may silo and reproduce disciplinary approaches to topics versus putting them into productive dialogue with each other.

The structures we found also begin to reveal aspects of power in the research literature. The term university is more popular than college. Community college, although present in the top terms at ASHE and RevHE, is mostly absent among the top pairs in the other journals we included in our analysis. This is consistent with previous work noting that community college student research is published primarily in community college–focused journals (Crisp et al., 2016). Students remain more prevalent than all other institutional stakeholders. The emergence
of new topics reflects federal investment in particular research areas, such as STEM, and scholar-driven initiatives to expand the field, such as MSI research.

The decline in the popularity of certain word-pairs and the increasingly disconnected co-citation networks across venues suggest that some kind of shift in the field may be on the horizon. Whether that shift is away from topics, differences in how we frame topics, or a departure from shared scholarly objectives is unclear. Some of the shifts are likely sociohistorically situated, such as the Michigan Affirmative Action cases or student activism. Some topics appear less prevalent, such as terminology in *JCSD* that moves from women as a unit of analyses to gender, reflecting potential changes in theorizing about gender and inclusion. Current authors may cite older pieces less often as intellectual history tracing becomes more contemporarily focused. As knowledge about higher education expands and deepens, and approaches to inquiry become more varied and complex, researchers can ask and explore new questions and reengage enduring ones. But, certainly, the field could benefit from work that synthesizes across or connects discourse communities, which is one of the generative possibilities of low-consensus status. Future studies could examine cited work with high “betweenness centrality,” which is a network measure indicating that a piece serves as a key bridge between clusters of work.

Taken together, these patterns suggest the field may be at a point of reconfiguration. It could be that the field of higher education studies is at the forefront of an emerging body of scholarship, especially given the addition of *JDHE* during this period and the expansion in higher education graduate degree programs (ASHE, 2020). The field may also be further subdividing, and the distance between related research topics like financial aid, college student development, and teaching and learning is increasing further. Although the majority of ASHE
titles focus on degree-students and baccalaureate colleges, approaches to researching and framing those topics in the broader scholarly conversation may move in increasingly narrow directions.

Our work generates several avenues for further study, many having to do with the potential factors that drive the emergence of these patterns. Tracing the movement of work from conferences to publication is needed (Kortegast et al., 2020). Authorship networks could be used to study the emergence of new scholars, connections to established scholars, and the role of scholarship from outside the United States. Changes in organizational leadership, editorship, and mission may drive and reflect changes in publication patterns. In terms of content, work on the meanings of the word clusters and citation networks and what it means to engage them would be helpful.

Broadly, we explore the continuum between low and high consensus by tracing levels of topical and citation (dis)connectedness and visibility over time. In our data, new authors emerge but are building counter-frameworks and using methods that make the work distinctive—this is not only iteration of the same frameworks, which would be expected in high-consensus fields, but also a conversation offering concurrent, alternative, and iterative topics and frameworks. This process produces islands rather than a single connected component, yet the majority of the islands are still present, and low consensus holds. By delineating these patterns in scholarly (re)production, we highlight structural evidence of when, where, and how topics in the field are accorded time, attention, and other scholarly resources. Understanding how the field is constructed through the structuration of topics and literatures engaged in various scholarly venues can help to identify how discourse communities emerge and decline within higher education as it navigates the meanings of low consensus.
References


  https://feministkilljoys.com/2013/09/11/making-feminist-points/


Association for the Study of Higher Education. (2020, April 29). *CAHEP*.
  https://www.ashe.ws/cahep


published in key journals in higher education: Implications for graduate research training.


### Table 1.
Co-Citation Network of Top 100 Edges, by Journal and Time Period

<table>
<thead>
<tr>
<th>Journal</th>
<th>Descriptors</th>
<th>Time Period</th>
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</thead>
<tbody>
<tr>
<td><strong>Journal of College Student Development</strong></td>
<td>Research Articles</td>
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<td>Nodes</td>
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</tr>
<tr>
<td></td>
<td>Communities</td>
<td>7</td>
</tr>
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<td><strong>Journal of Diversity in Higher Education</strong></td>
<td>Research Articles</td>
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<tr>
<td></td>
<td>Nodes</td>
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<td>Communities</td>
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<td>Research Articles</td>
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<td></td>
<td>Communities</td>
<td>10</td>
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<td><strong>Research in Higher Education</strong></td>
<td>Research Articles</td>
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<td>Nodes</td>
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<td><strong>Review of Higher Education</strong></td>
<td>Research Articles</td>
<td>106</td>
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<td></td>
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<td></td>
<td>Communities</td>
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TABLE 2.
Change in Most Frequent Word-pairs from Wave One, ASHE Conference, 1998-2017

<table>
<thead>
<tr>
<th>Word-Pair</th>
<th>Wave 1 Frequency</th>
<th>Wave 1 to 2</th>
<th>Wave 2 to 3</th>
<th>Wave 3 to 4</th>
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<tr>
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<td>35.71%</td>
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<td>27.03%</td>
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<td>classroom student</td>
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<td>-2.44%</td>
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<td>college organizational</td>
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<td>11.36%</td>
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<td>college time</td>
<td>25</td>
<td>37.50%</td>
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<td>effect learning</td>
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<td>-310.00%</td>
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<td>ethnic racial</td>
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<td>39.02%</td>
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<td>-8.33%</td>
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<td>40.48%</td>
<td>-7.69%</td>
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<td>satisfaction student</td>
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<td>32.43%</td>
<td>11.90%</td>
<td>-320.00%</td>
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<td>25</td>
<td>35.90%</td>
<td>-21.88%</td>
<td>-18.52%</td>
</tr>
</tbody>
</table>

TABLE 3.
Change in Most Frequent Overall Word-pairs, All Journals and ASHE Conference, 1998-2017

<table>
<thead>
<tr>
<th>Word-Pair</th>
<th>Wave 1 Frequency</th>
<th>Wave 1 to 2</th>
<th>Wave 2 to 3</th>
<th>Wave 3 to 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>effort student</td>
<td>104</td>
<td>79.27%</td>
<td>-15.65%</td>
<td>22.58%</td>
</tr>
<tr>
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<td>21.51%</td>
<td>2.65%</td>
<td>25.86%</td>
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<td>student university</td>
<td>95</td>
<td>21.05%</td>
<td>14.78%</td>
<td>0.00%</td>
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<tr>
<td>development faculty</td>
<td>93</td>
<td>50.00%</td>
<td>15.38%</td>
<td>17.78%</td>
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<tr>
<td>arts college</td>
<td>86</td>
<td>36.05%</td>
<td>5.13%</td>
<td>11.38%</td>
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<td>arts liberal</td>
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<td>process research</td>
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<td>4.85%</td>
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<td>78</td>
<td>30.59%</td>
<td>2.70%</td>
<td>36.84%</td>
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</table>
Figure 3. Word co-occurrence network in *Review of Higher Education*, 2008-2012.
Figure 5. Review of Higher Education co-citation analysis, 2008-2012.
Figure 6. Review of Higher Education co-citation analysis, 2013-2017.